UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/807,580	04/13/2001	Albert Hasper	NEDER24.001A	2074

20995 7590 05/06/2004

KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

EXAMINER	
FOX, CHARLES A	

ART UNIT	PAPER NUMBER
3652	

DATE MAILED: 05/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

UNITED STATES PATENT AND TRADEMARK OFFICE

COMMISSIONER FOR PATENTS
UNITED STATES PATENT AND TRADEMARK OFFICE
P.O. BOX 1450
ALEXANDRIA, VA 22313-1450
www.uspto.gov

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Paper No. 20040429

Application Number: 09/807,580
Filing Date: April 13, 2001
Appellant(s): HASPER ET AL.

Adeel S. Akhtar
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed December 29, 2003.

(1) Real Party in Interest

A statement identifying the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) Status of Claims

The statement of the status of the claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

The rejection of claims 8,9 and 11-15 stand or fall together because appellant's brief does not include a statement that this grouping of claims does not stand or fall together and reasons in support thereof. See 37 CFR 1.192(c)(7).

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

6,079,927	Muka	6-2000
6,164,894	Cheng	12-2000
6,213,708	Allen	4-2001

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 8,9 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Muka in view of Cheng and further in view of Allen. In regards to claim 8 Muka US 6,079,927 teaches a device for storing wafers in cassettes comprising:

a housing;

a wafer handling device (230) arranged in a chamber (262) configured to be sealed in respect to said housing;

a part (172,174) for receiving at least 2 closable cassettes arranged in the housing and separated from said chamber by a partition, said part (172,174) configured to position a cassette against a closable opening, wherein said cassette and said closable opening are opened so that said wafer handling device can remove or place wafer from and to said cassettes;

a store (110) for closable cassettes arranged within the housing;

a handling device (190) for closable cassettes arranged in the housing, wherein the store and the device for handling (190) closable cassettes and the part (172,174) for receiving cassettes are separate, and the wafer handling device is adapted to transfer wafers from a first cassette to a second cassette.

Muka does not teach the device as sorting the wafers directly from one cassette to another or a measuring station being accessed by the wafer handling device.

Cheng US 6,164,894 teaches providing a measuring station (16) that is accessed by a wafer handling device (50). Cheng does not teach sorting wafers between two cassettes. Allen US 6,213,708 teaches a wafer transfer device that sorts wafers from one cassette to at least one other cassette. See column 5 lines 19-21. It would have been obvious to one of ordinary skill in the art, at the time of invention to provide the measuring station capabilities as taught by Cheng and the sorting capabilities taught by Allen to the device taught by Muka in order to allow the device to test wafers and to sort them after testing in order to keep the process station from processing defective wafers, thereby increasing the throughput of the system by avoiding the processing of defective wafers.

In regards to claim 9 Muka further teaches that the device is configured to sort wafers stored in front opened unified pods (FOUPs).

In regards to claims 13-15 Muka discloses a method of assembling a batch of wafers in a cassette comprising the steps of:

placing at least a first and second closed cassette in a store;

employing a cassette handling device to select and move a first cassette from the store to a sorting operation, wherein the first cassette is opened and placed in active connection with a wafer handling device in a chamber;

employing a cassette handling device to select and move a second cassette from the store to a sorting operation, wherein the second cassette is opened and placed in active connection with a wafer handling device in a chamber;

employing a wafer handling device to sort wafers by transferring the wafers between the first and second cassettes, wherein the chamber is sealed.

Muka does not teach the device as moving the wafers directly from one cassette to another or onto a measuring station in the transfer chamber.

Cheng teaches a method of wafer handling whereby a wafer is tested at a wafer measuring station. Cheng does not teach sorting the wafers after testing. It would have been obvious to one of ordinary skill in the art, at the time of invention to add the measuring step taught by Cheng to the methods taught by Muka order to test the wafers automatically after processing, therein making the process faster and more precise.

Allen teaches the method of sorting wafers between a first cassette and at least a second cassette. It would have been obvious to one of ordinary skill in the art, at the time of invention to modify the methods taught by Muka and Cheng by adding a sorting step as taught by Allen in order to sort the tested wafers into various groups based upon their being defective or operable.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Muka in view Cheng and Allen as applied to claim 8 above, and further in view of Rush et al. Muka in view of Cheng and Allen teach the limitations of claim 8 as above they do not teach the use of a turntable. Rush et al. teach a wafer transfer machine that makes use of a turntable (12) to hold wafer carriers (24). It would have been obvious to one of

ordinary skill in the art, at the time of invention to provide the receiving stations taught by Muka in view of Cheng and Allen as a turntable as taught by Rush et al. in order to allow a second cassette to be placed on the turntable while a first cassette is in communication with the wafer handler, therein allowing the cassettes to be interchanged rapidly decreasing the wait time of the processing unit.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Muka in view of Cheng and Allen as applied to claim 8 above, and further in view of Garric et al. Muka in view of Hasebe et al. teach the limitations of claim 8 as above, they do not teach the store as being a rotatable magazine. Garric teaches a store (300) for wafer cassettes (100) that is a rotatable magazine. It would have been obvious to one of ordinary skill in the art, at the time of invention to provide the store taught by Muka in view of Cheng and Allen as a rotatable store as taught by Garric et al. as the rotatable magazine is considered to be a conventional means of storing wafer cassettes.

(11) Response to Argument

As the appellant has stated that all claims stand or fall together, the examiner is rebutting the appellants arguments in regards to claim 8 as it is the first independent claim in the application. Appellant breaks the arguments into two parts listed under subheadings A and B on pages 5 and 8, they also argue another point in both subsections as outlined below. Summary of arguments:

A) combination of the prior art does not teach all elements of the claims.

B) there is no suggestion to combine the references.

In response to appellant arguments set forth in section A of appellant's brief. Firstly, there is no teaching of the particular arrangement as argued by the appellant. The language of the claims sets forth that a wafer handler within a housing accesses a measuring device, but does not teach the measuring device being in the housing or connected to said chamber in any particular manner. The same is true of the wafer sorter. As such the claim defines a generic structure that one of ordinary skill in the art would be able to build as no direction is given on the arrangement of the parts save for the wafer handler being located in the housing. The prior art of Cheng and Allen both teach using their inventions with existing devices used for handling wafers. Again while they do not teach a particular structure for the combination of their device with an existing device it is noted that they can be combined with any existing device for handling wafers. It is reasonable to think that one of ordinary skill in the art would be able to determine the best arrangement of the parts as neither Cheng or Allen provide explicet details on how their device would be combined with existing wafer handlers.

The examiner in the final rejection of claim 8 has stated that Muka meets the limitations of that claim with the exception of a measuring station and a sorting operation. These deficiencies are met by the supporting references of Cheng and Allen. In the first line of appellants argument under subsection A the appellant agrees that the combination of references teach all the limitations of claim 8. As such this argument by the appellant is moot by their own admission.

Regarding the arguments set forth in the first and second paragraphs on page 7 of the appellants brief, the examiner holds that the claims do not set forth that all

components must be within the housing. The supporting references teach the usefulness of adding their invention to existing wafer handling devices. Therefore they meet the generic structural limitations present in claim 8, or as appellant put it the arrangement of the components as presented in claim 8.

In regards to the arguments set forth in section B of the appellants brief. In regards to the suggestion to combine this too is present in the references of Cheng and Allen. In regards to the Cheng reference they teach placing a measuring station that is accessible by a wafer handler to help test wafers during processing to increase the yield. They further teach that the handling and testing of wafers is performed by an integrated system. See column 2 lines 20 - 25. This not only is a suggestion to combine the measuring station with a wafer handler, but is an explicit teaching to do so. As the primary reference of Muka teaches a device with a wafer handler, one of ordinary skill in the art at the time of invention of the instant invention would have seen the usefulness of combing a measuring station as taught by Cheng with the device taught by Muka.

Further the Allen reference teaches that wafer sorting between cassettes is well known in the art. See column 1 lines 27-35. Allen further teaches their wafer sorter as being used in conjunction with any semiconductor processing tool or within a processing sequence. Thus there is also an explicit teaching to combine the sorter taught by Allen with the device as taught by Muka. Because Allen teaches his device as being used with a wider range of devices than encompassed by the instant invention, he does not

teach away from using his device with a device as taught by Muka, but rather teaches the device of Muka as being in the set of devices his invention may be used with.

As such the examiner holds that there is suggestion to combine both the Cheng and Allen references with the primary reference of Muka, and that the final rejection of the claims are valid.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). In this case there are explicit teaching in both supporting references (Cheng and Allen) to combine them with a wafer handling device such as the one taught by Muka.

In regards to the argument that the references do not teach the element of the claims "in the particular claimed combination", the examiner does not see any particular structure that is not met by the cited references. The appellant argues that there is no teaching as to how the combined components would be arranged. This is true, but claim 8 does not claim any particular arrangement for the elements in the instant application. Also all the references deal with a wafer handler and were available at the time of invention, and as discussed above one of ordinary skill in the art would have been able to conceive of a manner of combining the devices. In short this argument is

moot as the appellant is arguing structural limitations that are not present in the claim in question.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

EILEEN D. LILLIS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600

Charles A. Fox
May 3, 2004

Conferees
Eileen Lillis
James Keenan JK

KNOBBE MARTENS OLSON & BEAR LLP
620 NEWPORT CENTER DRIVE
SIXTEENTH FLOOR
NEWPORT BEACH, CA 92660